

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Valerie Frankard

Application No.: 10/591,095

Confirmation No.: 4358

Filed: September 20, 2006

Art Unit: 1638

For: PLANTS HAVING INCREASED YIELD AND
METHOD FOR MAKING THE SAME

Examiner: Cynthia E. Collins

RESPONSE TO RESTRICTION REQUIREMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the restriction requirement set forth in the Office Action mailed May 6, 2008, Applicants provisionally elect Group I, claims 1-9, 12, 16-18, 20-21 and 23-24, with traverse. Applicants respectfully traverse and urge reconsideration and withdrawal of the restriction requirement for the following reasons.

Because this application is a national stage filing pursuant to 35 U.S.C. § 371, unity of invention under PCT Rule 13.1 and 13.2 is the applicable standard. Unity of invention is fulfilled “when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical feature. The expression ‘special technical feature’ shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.” (PCT Rule 13.2).

The Examiner argues that the inventions of Groups I-VI do not relate to a single inventive concept because they lack the same or corresponding special technical feature under PCT Rule 13.2. In support, the Examiner alleges that the special technical feature is a nucleic acid encoding a D-type cyclin-dependent kinase (CDK) which is obvious or anticipated, citing to Chomet *et al.* (US 2003/233670, “Chomet”), Yamaguchi *et al.* (Proc. Natl. Acad. Sci. USA,

2003, 100(13): 8019-23, "Yamaguchi") Fabian-Marwedel *et al.* (Plant Cell, 2002, 14(1): 197-210, "Fabian-Marwedel"), and DeVeylder *et al.* (WO/03/027299, "DeVeylder"). Applicants respectfully disagree with the Examiner's characterization of the references.

As stated in the specification and repeated in the claims, the general inventive concept of the present invention relates to a method for increasing plant yield by altering expression of a nucleic acid encoding a D-type CDK. Applicants respectfully disagree that the present invention does not make a contribution over the references cited by the Examiner. As stated in the specification, D-type CDKs can be distinguished from other types of CDKs by the sequence motif NXTALRE which is particular to this type of CDK. See specification at page 6, lines 13-17. In contrast, DeVeylder discloses C-type CDKs which are distinguished by a different sequence motif, the PITAIRE sequence. DeVeylder, page 4, lines 2-4.

Fabian-Marwedel describes the role of a rice CDK activating kinase (CAK), R2, on cell cycle progression and growth in suspension cells. This reference does not disclose a method for increasing yield in a transgenic plant. See also specification at page 3, lines 7-8. Similarly, Yamaguchi describes the effect of transient R2 expression on callus growth in tobacco leaf explants (as also described in the specification at page 3, lines 1-5), but a method for increasing yield in a transgenic plant is not disclosed.

Chomet discloses generally CDK activating kinase sequences from soybean, rice, and maize (Page 10, Table 1). Chomet describes general methods for plant transformation and vector construction which would be known to a person skilled in the art, but a specific method for increasing yield in a plant by introduction of a D-type CDK is not disclosed. Furthermore, Chomet does not disclose a method for increasing plant yield by a genetic modification in the locus of a gene encoding a D-type CDK as recited in claim 10 of the current application.

Additionally, the Examiner has also required restriction between product (Group II) and process claims (Groups I and III-VI). However, under the applicable standard, claims directed to a product and a process of making and of using said product are an acceptable combination of categories under unity pursuant to 37 CFR § 1.475(b)(3). Accordingly, Applicants respectfully request that the Examiner reconsider the restriction requirement for this additional reason.

Moreover, Applicants believe that there is no undue burden on the Examiner to search all Groups together. As stated in § 803 of the M.P.E.P. “[i]f the search and examination of the entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.” (M.P.E.P. § 803, emphasis added). For the claims of Groups I-VI, the claims are directed to transgenic plants with altered expression of a D-type CDK nucleotide (Group I, claims 12, 16-18, and 23-24), processes for producing said plants (Groups I and III-VI, claims 1-11 and 20-22) or constructs containing said nucleotide (Group II, claims 13 and 14). Therefore, all of the Groups share the same or corresponding technical feature of methods of using a D-type CDK nucleic acid for increasing plant yield and constructs and plants comprising said nucleic acid. Thus, the same art and field of search relevant to Group I would also be relevant to Groups II - VI. No undue burden would be required in examining them together. Accordingly, Applicants respectfully request that the Examiner reconsider the restriction requirement and examine all of the claims in one application.

Alternatively, at least Groups I and II should be examined together. Both Groups I and II relate to using a D-type CDK nucleic acid for increasing plant yield. A search of Group I drawn to methods and plants comprising using a D-type CDK nucleic acid would be equally applicable to the claims of Group II drawn to a construct comprising said nucleic acid. A search of claims drawn to plants comprising a D-type CDK nucleic acid (produced by the claimed method) and a search of the claims drawn to constructs comprising the D-type CDK nucleic acid would be commensurate in scope. Accordingly, Applicants respectfully request that the Examiner reconsider the restriction requirement and examine at least the claims of Groups I and II in one application.

CONCLUSION

For at least the above reasons, Applicants respectfully request that the restriction requirement be reconsidered and withdrawn. Alternatively, Applicants request that at least Groups I and II be examined together.

Applicants reserve all rights to pursue the non-elected species in one or more divisional application.